

ARGUMENTS/REMARKS

STATUS OF CLAIMS

Claims 1 – 19 are pending.

Claims 1 – 2 are withdrawn from consideration.

Claims 3 – 19 stand rejected.

No claims have been amended

REMARKS

Claims 3-19 stand rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,870,207 (Taylor) in view of U.S. Patent No. 6,593,603 (Kim).¹ Applicant traverses these rejections, for at least the following reasons.

35 U.S.C. §103(a) sets forth, in part:

[a] patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

To establish a *prima facie* case of obviousness, all of the recited claim limitations must be taught or suggested in the prior art. See, *MPEP 2143.03*; see also, *In re. Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Applicant submits Taylor and Kim fail to disclose or suggest each limitation of any of the rejected claims.

As to Claim 3, it requires, in part, that: (1) an enhancement mode transistor, (2) a depletion mode transistor and (3) a power mode transistor, each being formed on a single substrate. By way of example only, such a configuration is shown in

¹ Applicant notes the Office action mistakenly identifies Taylor as U.S. Pat. 6,871,207 instead of 6,870,207 at page 2. Clarification is requested.

Figs. 1 and 2 of the subject application. As is discussed in par. [0019] of the subject application, Fig. 1 shows an electronic device 10 that includes an enhancement mode pHEMT 20, depletion mode pHEMT 30 and power mode pHEMT 40 on a common substrate 50. As is discussed in par. [0023] of the subject application, Fig. 2 shows an operational integrated circuit that includes an enhancement mode pHEMT block 200, a depletion mode pHEMT block 300 and a power mode pHEMT block 400. Taylor and Kim fail, in any combination, to contemplate the inclusion of even two of these types of transistors, let alone all three, in a single device – and thus fails to render at least the invention of Claim 3 unpatentable.

The Office action argues Taylor teaches a first block comprising an enhancement mode pHEMT (without providing any support therefor) and a second block comprising a depletion mode pHEMT in col. 7, l. 55 – col. 8, l. 5. Applicant traverses these assertions.

Taylor shows a single exemplary layer structure in Fig. 1 that can be made into a CCD. See, e.g., col. 3, l. 65 – col. 4, l. 1. Taylor teaches that a CCD is formed by etching the layer structure of Fig. 1 into a series of mesas, each serving as a pixel of the CCD structure. See, e.g., col. 4, ll. 52-57 (*“The CCD is formed as a series of mesas 115 in FIG. 2 and referred to as pixels, separated by regions 116 referred to as the inter-electrode transfer regions in FIG. 2. The mesas are created by patterning the original wafer (with photoresist for example) and then etching (typically by reactive ion etching for accuracy) to the charge source layer 165.”*). Accordingly, it is clear that Taylor teaches a series of like devices – and not an enhancement mode transistor and a depletion mode transistor both formed on a common substrate – as is recited by Claim 3. For purposes of completeness, col. 7, l. 52 – col. 8, l. 16 of Taylor merely recites the structure of Fig. 1 of Taylor. See also, e.g., col. 3, l. 65 – col. 4, l. 51.

The referenced portions of Kim fail to remedy this shortcoming of Taylor. Kim is only relied upon in the presented rejections for its purported teachings regarding a power mode pHEMT. This fails to remedy the deficiency of the primary

reference (Taylor) to teach or suggest an enhancement mode transistor and a depletion mode transistor being formed on a common substrate.

Accordingly, Applicant respectfully requests reconsideration and removal of the rejection of Claim 3 as being unpatentable over Taylor in view of Kim, at least by virtue that Taylor and Kim fail, in any combination, to teach or suggest: (1) an enhancement mode, (2) a depletion mode and (3) a power mode pHEMT transistor each be formed on a single substrate – as is recited by Claim 3.

Applicant also requests reconsideration and removal of the rejections of Claims 4-6 and 12-19 as well, at least by virtue of these claims' ultimate dependency upon a patentably distinct base Claim 3.

As to Claim 7, it analogously recites, in part: (1) an enhancement mode pHEMT, (2) a depletion mode pHEMT and (3) a pHEMT on a common substrate. Accordingly, Applicant requests reconsideration and removal of the rejection of Claim 7 as being unpatentable over Taylor in view of Kim for at least the foregoing reasons.

Applicant also notes Claim 7 recites, "an analog to digital converter" comprising these three devices on a common substrate. Taylor and Kim also fail in any combination to teach an analog to digital converter. Instead, Taylor purports to teach CCD and pHEMT power devices, respectively. Nowhere do Taylor and Kim teach or suggest, in any combination, an analog to digital converter including all three recited devices on a common substrate. Accordingly, Applicant requests reconsideration and removal of the rejection of Claim 7 as being unpatentable over Taylor in view of Kim for at least this reason as well.

Applicant also requests reconsideration and removal of the rejections of Claims 8-9 as well, at least by virtue of these claims' ultimate dependency upon a patentably distinct base Claim 7.

As to Claim 10, it analogously recites, in part: (1) an enhancement mode pHEMT, (2) a depletion mode pHEMT and (3) a power pHEMT on a common substrate. Accordingly, Applicant requests reconsideration and removal of the

rejection of Claim 10 as being unpatentable over Taylor in view of Kim for at least the reasons set forth with regard to Claim 3 herein-above.

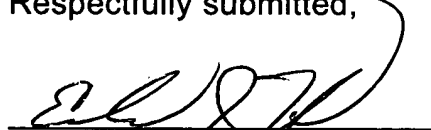
Applicant also requests reconsideration and removal of the rejection of Claim 11 as well, at least by virtue of this claim's dependency upon a patentably distinct base Claim 10.

CONCLUSION

Applicant believes he has addressed all outstanding matters, and respectfully requests that Claims 3 – 19 be allowed without further delay.

Should there be any questions or outstanding matters, the Examiner is cordially invited and requested to contact Applicant's undersigned attorney at his number listed below.

Respectfully submitted,



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